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IN THE CLAIMS:

1. (Original) A device-implemented software system for maintaining ventricular activation or contraction sequence to improve atrial and ventricular hemodynamics, the system comprising:
 - means for prolonging a first PAV interval subsequent to a sensed premature beat;
 - means for decrementing PAV intervals arising after said first PAV interval;
 - and
 - means for identifying at least one of said PAV intervals that is equal to a programmed PAV interval.
2. (Original) The system of claim 1 wherein said means for prolonging includes means for extending the PAV interval subsequent to a non-conducted premature atrial event.
3. (Original) The system of claim 1 wherein said means of decrementing includes means for controlling subsequent PAV intervals to become shorter until said PAV interval is equal to the programmed PAV interval.
4. (Original) The system of claim 1 wherein said means for prolonging further includes means for simultaneous smoothing of the atrial and ventricular rates.
5. (Original) A method for maintaining ventricular activation or contraction sequence to improve atrial and ventricular hemodynamics, the method comprising:
 - prolonging a first PAV interval subsequent to a sensed premature beat;
 - and
 - decrementing PAV intervals arising after said first PAV interval; and

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identifying at least one of said PAV intervals that is equal to a programmed interval.

Please **ADD** the following new claims:

6. (New) The system of claim 1, further comprising means for determining a rhythm occurring prior to the sensed premature beat, wherein the prolonging means prolongs the first PAV interval in response to the determined rhythm.
7. (New) The system of claim 6, wherein the first PAV interval is prolonged for a first time period in response to the determined rhythm being an intrinsic rhythm and for a second time period, not equal to the first time period, in response to the determined rhythm being other than an intrinsic rhythm.